

REMARKS

In the Office action of July 28, 2003 the Examiner finalized the restriction requirement in this application. Applicant has accordingly cancelled claims to the non-elected inventions without prejudice to filing a divisional Application.

The Examiner objected to claim 53 as improper. Applicants have cancelled this claim.

Claims 1-7, 11-19, 21, 24, 25, 27 and 28 are rejected as anticipated by the Vaisanen Patent. In response Applicants have amended independent claims 1 and 14, Applicants have cancelled claim 21 and 24 and traverse the rejection as to claims 18 (which is amended to independent form), 19, 25 and 27, for which reconsideration is requested based on the following remarks.

Claims 8-10, 20, 22, 23 , 39-44, 53 and 54 are rejected as obvious over the Vaisanen Patent. In response, Applicants have amended claim 1, on which claims 8-10 depend and amended claim 23. Claim 53 and 54 are cancelled. Applicants traverse the rejection as to the remaining claims and request reconsideration in view of the following remarks.

The Examiner has indicated that the subject matter of claim 26 is allowable. Applicants have amended this claim to independent form to place it in condition for allowance.

In accordance with the remaining claims, applicant's' invention is an apparatus and method for operating co-located transceivers operating in the same frequency band without interference. Applicants' invention provides an innovative approach to providing substantially continuous communications using two protocols, interrupting one protocol for only a brief period to service communications using the other protocol. Applicant relies on characteristics of the protocols to achieve this dual operation in ways that are neither taught nor suggested by the art.

The Vaisanen Patent relates only to an antenna switching arrangement for a mobile unit having both a WLAN Transceiver and a Bluetooth transceiver and having two antennas. The Vaisanen arrangement does not attempt to coordinate operation according to the two protocols, but rather selects the preferred protocol (WLAN) when an access point is available, and the Bluetooth protocol when an access point is not available. In this case a portable terminal communicates via a mobile phone, using Bluetooth. As described at column 1, lines 34 to 40, the arrangement of Vaisanen is intended to enable a personal portable computer to send and receive e-mail via a mobile telephone without wired connection between the mobile telephone and the portable computer when the computer is outside WLAN range, but to use the WLAN when an access point is available. There is no attempt, as in the present invention, to coordinate operation of transceivers using the two protocols, except to receive signals to monitor the presence of a WLAN access point when communicating using Bluetooth protocol. (See Column 4, lines 54 to 60).

As amended above, Claim 1 and dependent claims 2 to 13 and new claim 55 are distinguished over the Vaisanen Patent since the claims specify that the coordinator causes the base station to transmit command signals to activate the first and second transceivers. In the Vaisanen patent the control circuit is not a coordinator and is not associated with a base station and arranged to cause the base station to transmit command signals. Accordingly claims 1 to 13 and 55 are patentable over the Vaisanen reference.

Claim 14 is amended to specify that the second radio transceiver operates when the first radio transceiver is in power save mode. The invention specified in this claim is novel because it provides an unobvious use of the power save feature of the first protocol to provide a time period wherein the mobile unit can communicate using the second protocol without interference. The

provisions of this claim are similar to the features found patentable with respect to allowed claim

26. Claims 15 to 17 depend on claim 14 and are therefore allowable at least for the reason that claim 14 is allowable.

Claim 18 is amended to be in independent form incorporating the limitations of original claim 14. Claim 19 depends on claim 18. These claims have the same scope originally presented. Applicants traverse the rejection of claims 18 and 19 as anticipated by Vaisanen and request reconsideration of this rejection. In particular the Examiner's rejection of these claims asserts that the feature that the first and second radio transceivers are activated for fixed, predetermined time intervals is "inherent" in Vaisanen. This feature of the invention is described with respect to figure 3. The Vaisanen reference uses a control circuit which is implied to operate in response to the availability of a WLAN access point (See, column 6, lines 46-49, indicating monitoring of the WLAN AP's). On this basis it is clear that fixed, predetermined time intervals are not provided. Nothing in the reference indicates that the use of fixed time intervals is suggested, particularly since the Vaisanen patent implies that the Bluetooth protocol would only be used where there is no access point within range. Accordingly claims 18 and 19 are not anticipated by the Vaisanen Patent.

The Examiner has rejected claim 20 as obvious over Vaisanen in view of Wright. The Examiner asserts that Wright teaches that a transceiver such as that of Vaisanen "benefits" from using orthogonally polarized antennas. Wright teaches at column 15, lines 39 to 46 that orthogonal antennas may be provided and that the polarization giving the best reception may be selected. The orthogonal antennas are connectable to the same transceiver using antenna diversity unit 254. In contrast, applicants use orthogonal antennas for purposes of isolating one receiver from transmitted signals of the other transceiver. Accordingly claim 20 specifies that

the two transceivers are connected to different antenna systems that are orthogonally polarized. Vaisanen has the same isolation problem, but solves the problem in a different way by using a metallic shield between antennas (Vaisanen Patent column 5, lines 35 to 43). Since orthogonal polarized antennas are used for an entirely different purpose, and for a single transceiver in the Wright Patent there is no suggestion to substitute orthogonal antennas for the shielded antennas of Vaisanen. Accordingly, it is requested that the Examiner reconsider and withdraw the rejection of claim 20. New claim 56, which depends on claim 20 is likewise allowable.

Claim 23 is amended as set forth above to clarify the invention claimed. Claim 23 as originally presented is rejected as obvious over the Vaisanen Patent in view of the Zyren Patent. As amended claim 23 is distinguished over the disclosure of Vaisanen as modified by Zyren because neither reference discloses a look ahead function to determine if the frequency bands that will be used for the Bluetooth transmissions are being used by the WLAN system. The Zyren patent discloses a system with an additional signal to alert the mobile unit that a WLAN system is operating in the area into which the mobile unit has roamed. This system includes a special beacon system which signals the mobile unit. The apparatus of claim 23 does not require an additional beacon, but has a function that looks at the signal environment before transmitting on the Bluetooth protocol. The apparatus as claimed takes special advantage of the characteristics of the Bluetooth system wherein the Master unit controls the radio environment by transmitting to its slave units with a transmission that enables the slave units to transmit in response. The claimed look-ahead function determines whether there is traffic on the transmission frequency of the master unit and the response frequency of the slave unit. Contrary to the system of Zyren, no additional transmissions, such as special beacons are required. Claim 23 is not obvious since it allows system coordination without departure from the standards of

either system, and in fact takes advantage in an unobvious way of the characteristics of the protocols.

Claim 25 is directed to a method for operating a portable data communications device corresponding to the apparatus specified in claim 14. The invention specified in this claim is novel because it provides an unobvious use of the power save feature of the first protocol to provide a time period wherein the mobile unit can communicate using the second protocol without interference. Applicants traverse the rejection that claim 25 is anticipated by the Vaisanen Patent since the Vaisanen patent does not disclose or suggest that the mobile unit operate under the Bluetooth protocol during time intervals during which the device is dormant under the 802.11 protocol. The Vaisanen Patent suggests only that the device operate under the Bluetooth protocol only when no access point is available under the 802.11 protocol, as discussed above. Accordingly the Examiner is respectfully requested to reconsider and withdraw the rejection of claim 25 and dependent claims 27 and 28.

Allowable claim 26 is presented in independent form and is in condition for allowance.

Claims 39 to 44, 53 and 54 are rejected as obvious in view of the Vaisanen Patent.

Claims 53 and 54 are cancelled. Applicants respectfully traverse the rejection of claims 39 to 44 and request reconsideration based on the following.

The invention specified by claim 39 is a method of providing voice communications over a WLAN system and using a wireless headset. In particular, as set forth in the claims, voice data is communicated between the mobile unit and an access point using a first protocol, such as IEEE Standard 802.11. The mobile unit may be, for example a belt mounted portable data communications device. The mobile unit communicates the voice data with a portable device, which may be a wireless headset using a second data communications protocol, such as

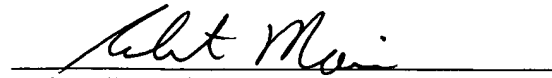
Bluetooth. Communication with the portable device is arranged to be non-interfering with the communications with the access point. Conversion between voice and data takes place in the portable device.

The Vaisanen Patent, while disclosing WLAN communications between a mobile unit and an access point and disclosing Bluetooth communications between the mobile unit and a mobile phone (Column 2, lines 17 to 20), it neither discloses nor suggests the method of claim 39. First as pointed out above Vaisanen describes a data communications system wherein data is communicated over a WLAN network when an access point is available and over a cellular telephone when an access point is not available. There is no suggestion that the **same** data corresponding to voice be communicated to the mobile unit from the access point using one protocol and from the mobile unit to the portable device using another protocol. Using the system of Vaisanen, a user would use the mobile telephone directly for voice communications. Using the Vaisanen system which applies only one protocol at a time, there is no communication between the mobile unit and the mobile telephone when an access point is available to the mobile unit. Vaisanen clearly does not contemplate or suggest the method of claim 39 and dependent claims 40 to 44, since there is no suggestion to send the same data using two different protocols. Accordingly claims 39 and 44 are believed to be patentable.

In view of the amendments and remarks set forth above, this application is believed to be in condition for allowance which action is solicited. In the event that the application is not deemed in condition for allowance, the examiner is invited to contact the undersigned in an effort to advance the prosecution of this application.

PATENT

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Robert L. Maier", is written over a horizontal line.

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Enclosures